
Business Case Analysis Development Guide

**U.S. Department of Health and Human Services
Centers for Medicare & Medicaid Services
Office of Information Services**

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INTRODUCTION

The intent of this guide is to assist the Centers for Medicare & Medicaid Services (CMS) information technology (IT) project owners in the preparation of a Business Case Analysis (BCA). This *BCA Development Guide* provides project owners with a clear understanding of the purpose and contents of a BCA. The BCA provides necessary information concerning the scope, alternatives considered, estimated costs and return on investment, risks, and technical and acquisition strategies necessary for the CMS IT investment review boards to make informed decisions. This Guide is one of the several references identified in the CMS *IT Investment Management Process Guide*¹, written to assist IT project owners in the effective management of their projects and compliance with CMS' IT governance processes. Project owners are encouraged to read the *IT Investment Management Process Guide* to become familiar with the investment management process and the critical role the BCA plays in this process.

Background

In 1996, Congress passed the Information Technology Management and Reform Act (now part of the Clinger-Cohen Act). Clinger-Cohen established the position of Chief Information Officer (CIO) in each Federal agency. In addition, Clinger-Cohen required Federal agencies to strengthen their IT selection and management processes, thereby improving mission performance and service to the public. Clinger-Cohen serves to strengthen agencies' management practices such that IT projects are implemented at acceptable costs, within reasonable time frames, and are contributing to tangible, observable improvements in mission performance.

In addition to the requirements of Clinger-Cohen, the increasingly rapid pace of change in CMS' programs and business requirements, the pace of technology evolution and advances, and obligation to be fiscally responsible in its investment management decisions mandate that CMS develop and implement sound management practices for its investments in information technology. Industry analyses highlight the high rate for failed IT projects. Among the most commonly cited causes for failed projects are poor planning and ineffective management processes.

In 1997, the Office of Information Services in CMS began developing an IT Investment Management Process to meet the specific obligations of the Clinger-Cohen Act, Office of Management and Budget guidance (OMB Circular A-130²), and CMS' own needs for more effective management processes. The Investment Management Process has continued to evolve since 1997 as the Agency has developed the critical building blocks

¹ *IT Investment Management Process Guide*, Office of Information Services, August 2001, Centers for Medicare & Medicaid Services, 7500 Security Blvd., Baltimore, Maryland

² OMB Circular A-130, *Management of Federal Information Resources*

of an integrated process. It is comprised of two phases: the BCA Phase and the IT Investment Management Phase.

The investment management process is built on the conceptual framework laid out in the General Accounting Office (GAO) February 1997 report, *Assessing Risks and Returns: A Guide for Evaluating Federal Agencies' IT Investment Decision-making*³. This model is composed of three interdependent phases: Selection, Control, and Evaluation.

During the Selection stage, an agency determines priorities and makes decisions about which projects will be funded during the year (or decision period). An important characteristic of the selection process is that a project's proposed benefits and risks are analyzed before a significant amount of funds are invested. This aspect of the GAO framework is addressed by the "BCA Phase" in CMS' IT Investment Management Process.

In the BCA Phase, the project owner of a larger and more complex project is provided with the resources necessary to conduct a BCA. BCAs are developed at CMS to support

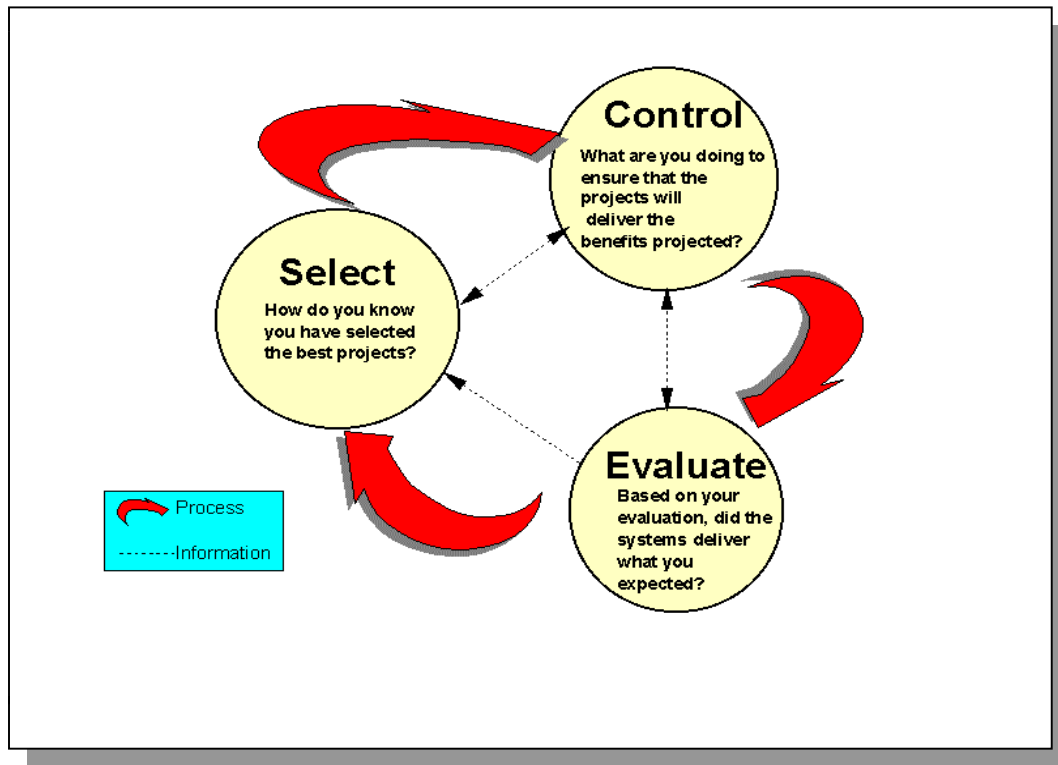


Figure 1. Investment Management Process Conceptual Framework

³ GAO/AIMD-10.1.13 *Information Technology Investment Evaluation Guide. Assessing Risks and Returns: A Guide for Evaluating Federal Agencies' IT Investment Decision-making*, February 1997

funding decisions by various groups, e.g., the CMS Financial Management Investment Board (FMIB) and the IT Investment Review Board (ITIRB). Included in a typical BCA is information concerning business need, project scope, alternatives considered, estimated costs and return on investment, risks, acquisition strategy, and technical strategy. Upon approval of the BCA and the coincident authorization of funds, the project will move into the IT Investment Management Phase.

Consistent with the GAO Control and Evaluation Phases, the “IT Investment Management Phase” of CMS’ process helps ensure that the project continues to meet mission needs and that mitigating steps are taken to address any deficiencies. The IT Investment Management Phase is designed so that projects are managed and implemented in a structured manner, using sound management practices and ensuring involvement by business stakeholders and technical experts throughout the systems development lifecycle. Lessons learned are captured to improve the process for future efforts.

The IT Investment Management Process tracks Agency IT investments at four levels of resource requirements. However, a full BCA is required only for projects at levels C and D, the definitions of which follow:

- Level C. Multi-year software development projects, or enhancements over \$100,000; complex or large purchases, and large hardware or network integration activities that can be broken down into phases.
- Level D. Major investments that exceed \$2.5M in one year or \$10M over 5 years, are of high visibility to important stakeholders, or drive forward a mission critical business function and warrant a focused review and detailed analysis and documentation.

Smaller projects are required to develop an abbreviated BCA. Contact your OIS Component Lead for further direction.

The BCA Guide Content

This BCA Guide consists of two parts that align with the mandatory parts of the Capital Asset Plan and Business Case Summary Exhibit 300. It walks the project owner through the steps necessary to develop a succinct, yet comprehensive, BCA. The body of a completed BCA should be as concise as possible (but not at the expense of requisite content), with appendices as needed. At the end of this Guide is a list of acronyms and their definitions (Appendix A), as well as a list of the reference materials that expand on the concepts discussed in the Guide (Appendix B).

The following figure depicts the organization of the BCA Guide, and corresponding structure of a BCA.

PART I. SUMMARY INFORMATION AND JUSTIFICATION

Section A	Overview
Section B	Summary of Funding
Section C	Justification
Section D	Performance Goals and Measures

PART II. PLANNING, ACQUISITION, AND PERFORMANCE INFORMATION

Section A	Alternatives Analysis
Section B	Risk Management
Section C	Acquisition Strategy
Section D	Enterprise Architecture for Chosen Alternative
Section E	Security

Figure 2. BCA Development Guide Structure

PART I:
SUMMARY INFORMATION AND JUSTIFICATION

Section A Overview

The following series of questions help OMB to identify which agency and bureau is responsible for managing this investment, which OMB budget account funds the investment, at what stage in its life cycle the investment is currently (i.e., in the current year), and who to contact for additional information.

1. What is the name of the investment?
2. What is your component within CMS?
3. Is this investment currently in planning or acquisition?
4. Is this request for full or incremental funding of the investment or useful segment? (See Appendix A for definition.)
5. What is the name and phone number of the Project Manager?
6. What is the percentage breakout for the following? (This should total 100%)
Hardware ___ Software ___ Services (see Appendix A for definition) ___ Other ___
7. Do the requirements of Section 508 of the Rehabilitation Act apply to this investment? (Yes or No)
 - a. If yes, will this investment fully meet those requirements? (Yes or No)
8. Will this investment collect or administer information from or about members of the public? Note: Government employees, non-citizens and non-legal residents are not members of the public for this purpose.
(Yes or No)
If it does, is the information:
 - (a) directly identifying information, e.g., name, SSN, address, phone, credit card number? (Yes or No)
 - (b) potentially identifying personal information, e.g., gender, location, race, birth date? (Yes or No)
 - (c) non-personal information, i.e., statistical information only – individuals cannot be identified? (Yes or No)

[NOTE: If the response to 9(a) or 9(b) is answered "yes", AND this is a new system being (i) newly developed or acquired or (ii) substantially modified, the E-Gov Act of 2002 requires a privacy impact assessment (PIA).]
9. What is the name, phone number, and title of the individual who can answer privacy-related questions about this investment?
10. Is this a financial management system? (See Appendix A for definition.)
(Yes or No)
 - a. If so, does this system (investment) address a FFMIA compliance area? [See Federal Financial Management Improvement Act reference in Appendix B.] (Yes or No)
 - b. If yes, which compliance area?

Section B Summary of Funding

Provide the total estimated life cycle cost for this investment by completing the following table. All amounts represent budget authority in millions, and are rounded to three decimal places. Federal personnel costs should be included only in the row designated “Government FTE Cost,” and should be **excluded** from the amounts shown for “Planning,” “Full Acquisition,” and “Operation/Maintenance.” The total estimated life cycle cost of the investment is the sum of costs for “Planning,” “Full Acquisition,” and “Operation/Maintenance” together with “Government FTE Costs.”

TABLE 1 -
SUMMARY OF SPENDING FOR INVESTMENT PHASES
(REPORTED IN MILLIONS)

All amounts represent Budget Authority

(Estimates for BY+1 and beyond are for planning purposes only and do not represent budget decisions)

	CY 2005	BY 2006	BY+1 2007	BY+2 2008	BY+3 2009	BY+4 2010	Total
Planning*							
Acquisition							
Operations & Maintenance							
SUBTOTAL							
Government FTE Costs							
TOTAL							

*Refer to Appendix A for a definition of Planning.

Note: Government FTE costs should include government personnel considered direct and indirect labor in support of this investment. The costs include salaries plus the fringe benefit rate of 32.8%. Agencies should include in FTE estimates anyone spending more than 50% of their time supporting this investment. You should allocate proportionally across all investments the time of anyone working on more than one investment and whose contributions for all investments would exceed 50% of their time.

Section C Justification

Agencies should undertake capital asset acquisitions only after determining that the investment would support a core or priority function of the agency, the investment must be undertaken by the agency because no alternative public or private sector alternative can better perform the function, and work processes have been sufficiently simplified to reduce costs, improve effectiveness and maximize the use of commercial off-the-shelf technology. Address the following items to explain why you must undertake this investment.

1. List your project's business requirements. List only the "shall" statements, e.g., "CMS shall collect decision data for all Medicare appeals."
For guidance on requirements writing, refer to the CMS Requirements Writer's Guide, Version 2.0.
2. Provide a brief summary of this investment, describing the performance gap it is intended to close or the performance problem this investment will solve.
3. Does this investment support one of the five President's Management Agenda (PMA) initiatives? (Yes or No)
4. If the response to 3. is "Yes," which PMA initiatives are supported?
PMA 1 - Human Capital (Yes or No)
PMA 2 – Budget Performance Integration (Yes or No)
PMA 3 – Financial Performance (Yes or No)
PMA 4 - Expanded E-Government (Yes or No)
PMA 5 - Competitive Sourcing (Yes or No)

Section D Performance Goals and Measures

In order to successfully address this area of the business case, performance metrics must be linked back to objectives in the Agency "Performance Budget" submission. The metrics should demonstrate the performance improvement (often the outcomes and sometimes outputs) the investment seeks to achieve while still being measurable. The metrics are the internal and external performance benefits this investment is expected to deliver to CMS (e.g., improve report processing by 6 hours, increase citizen participation by 300% a year to achieve an overall citizen participation rate of 75% by FY 2xxx, etc.). They are not the completion dates of the modules or projects. They are also not general goals (such as, significant, better, improved) that do not have a quantitative or qualitative measure.

For the investments in planning or full acquisition, the performance metrics should link to question 3 of Section A Alternatives Analysis in Part II below.

The Federal Enterprise Architecture (FEA) Performance Reference Model (PRM) seeks to categorize performance metrics. The PRM Version 1.0, available at www.feapmo.gov, includes detailed guidance on relevant performance metrics. Please categorize the nature of the investment in Table 3, which appears on page 11. Select a "Measurement Area" and "Category" from the following list to categorize your performance metric.

Measurement Area	Category (Within Measurement Area)
Mission and Business Results	<ul style="list-style-type: none">➤ Services for Citizens➤ Support Delivery of Services➤ Management of Government Resources
Customer Results	<ul style="list-style-type: none">➤ Customer Benefit➤ Service Coverage➤ Timeliness & Responsiveness➤ Service Quality➤ Service Accessibility
Processes and Activities	<ul style="list-style-type: none">➤ Financial➤ Productivity & Efficiency➤ Cycle Time & Timeliness➤ Quality➤ Security & Privacy➤ Management & Innovation
Technology	<ul style="list-style-type: none">➤ Financial➤ Quality➤ Efficiency➤ Information & Data➤ Reliability & Availability➤ Effectiveness

TABLE 3 – Performance Metrics

What is the Mission and Business this investment falls under?

_____ [use pick list from Business Reference Model (BRM) LOB and Subfunction,
available at www.feapmo.gov.]

Fiscal Year	Supported Goal in “Performance Budget”	Measurement Area	Category	Metric &/or Agency Specific Indicator	Baseline	Planned Performance Goal	Actual Result
Pre-Implementation				This is the metric that will be used to monitor progress towards closing performance gap from baseline to goal.	This is the current status of the metric before the investment was implemented or before the year began.	Do not fill in shaded areas.	
Current FY						This is the estimated improvement the investment will make on the metric over the year.	This is the improvement on the metric that was achieved.
FY+1							
FY+2							
FY+3							
FY+4							
FY+5							

PART II:
PLANNING, ACQUISITION, AND PERFORMANCE INFORMATION

Section A Alternatives Analysis

In selecting the best capital asset, you should identify and consider at least three viable alternatives, in addition to the current baseline, i.e., the status quo. Use OMB Circular A-94 and the Clinger Cohen Act of 1996 to determine the criteria you should use in your Cost/Benefit Analysis. You should use CMS' Enterprise Architecture and the Federal Enterprise Architecture (FEA) to help identify opportunities to collaborate and to develop, or share, solutions to common problems and close identified performance gaps.

1. Use the results of your alternatives analysis to complete the following tables:

TABLE 4 – Summary Evaluation Results Using Numerical Assessments

Criteria*	Alternative #1	Alternative #2	Alternative #3
Risk*			
Scalability*			
Total Evaluation Score			

* Examples of commonly used criteria include risk, scalability, flexibility to accommodate future needs, maintainability, and cost.

TABLE 5 – Cost Breakdowns for Alternatives

Cost Elements	Alternative #1	Alternative #2	Alternative #3
CMS Acquired Equipment			
Data & Database Administrator Contractor			
CMS Data Center Contractor			
IV&V Contractor			
Security Contractor			
CM/QA/Testing Support Contractor			
Other Support Contractors			
Total			

TABLE 6 – Alternative Attributes

Alternative	Description	Total Evaluation Score (from Table 4)	Life Cycle Cost Estimate (from Table 5)	Net Present Value	Return on Investment	Payback Period
Status quo	Status quo					
1						
2						
3						

-
2. Which alternative was chosen and why was it chosen?
3. What quantitative benefits will be realized?

NOTE – Any supporting analyses for the tables in this section should be included as an appendix to the BCA.

Section B Risk Management

A risk is any event about which there is uncertainty, which may interfere with achieving the project objectives of remaining within cost, schedule, scope, or quality. It is important to identify risks in every project and just as important to proactively respond to the risk.

Risk management is the use of a comprehensive and iterative approach to identify, assess, categorize, mitigate, and resolve risks throughout the project life cycle. Risk assessments should be performed at the initial concept stage and then monitored and controlled throughout the life cycle of the investment. These assessments should include risk information from all stakeholders.

In this section, indicate your most significant risks. For each risk give a brief description of the risk, the probability of the risk occurring, and the impact this risk will have should it occur. Additionally, describe the mitigation strategy that was developed for each potential risk.

In order to successfully address this issue on the business case and capital asset plan, you must have performed a Risk Assessment at initial concept, included the mandatory risk elements defined below.

For all investments you must discuss each of the following risks and discuss your plans, with milestones and completion dates, to eliminate, mitigate, or manage the risk. If there is no risk to the investment achieving its goals from a risk category, so state. If there are other risks identified, include them. Risk assessments for all IT investments must include risks associated with: 1) schedule, 2) initial costs, 3) life cycle costs, 4) technical

obsolescence, 5) feasibility, 6) reliability of systems, 7) dependencies and interoperability between this investment and others, 8) surety (asset protection) considerations, 9) creating a monopoly for future procurements, 10) CMS' capability to manage the investment, 11) overall risk of project failure, 12) organizational and change management, 13) business, 14) data/information, 15) technology, 16) strategic/government-wide goals, 17) security, 18) privacy, and 19) project resources.

For security risks, identify under the description column in Table 7 (which follows) the level of risk as high, medium, or basic. Indicate what aspect of security determines the level of risk, e.g., the need for confidentiality of information, the availability of information or the system, or the reliability of the information or system.

Definitions of the aforementioned 19 categories (or areas) of risk follow.

1. **Schedule**: Risk associated with the adequacy of the time estimated and allocated for the development, production, fielding, operations, maintenance, and disposal of the system. Two risk areas bearing on schedule risk are (1) the risk that the schedule estimates and objectives are not realistic and/or reasonable and (2) the risk that program execution will fall short of the schedule objectives as a result of failure to mitigate technical risk and external constraints.
2. **Initial Cost**: Risk associated with an incomplete or inaccurate cost estimate at the start up of the project and including planning and/or sunk costs associated with the change of direction of a project.
3. **Life Cycle Costs**: Risk associated with the ability of the system to achieve the program's life cycle cost objectives. This includes the effects of budget and affordability decisions and the effects of inherent errors in the cost estimating technique(s) used. This includes planning, development, operations, and retirement costs.
4. **Technical Obsolescence**: Risk that strategies for avoiding the use of outdated technical resources over the system life are not planned for and implemented. A plan for regular technology upgrade or refreshment is one way to avoid obsolescence by ensuring the use of advanced versions of equipment or software when they become available.
5. **Feasibility**: Risk of insufficient ability to successfully develop and implement the project within defined technical, scope, cost, schedule parameters to successfully meet the performance goals due to unrealistic goals, unavailable/unproven or immature technology, lack of expertise, underdeveloped concepts, changes in the external environment, and other related factors.
6. **Reliability of Systems**: Risk of technical problems/failures with applications and associated product support and their ability to provide planned and desired technical functionality as needed and expected.

7. **Dependencies and Interoperability Between this System and Others:** Risk associated with the reliance on technical interfaces with other systems (existing or in development) within the Agency and across the Federal Government. Risk is increased if the success of a project is directly linked to the success/implementation or on-going maintenance of other systems.
8. **Surety (Asset Protection) Considerations:** Risk associated with the impact of loss, damage, or theft and the adequacy of physical protection, continuity of operations, disaster recovery plans, and operations for the system.
9. **Risk of Creating a Monopoly for Future Procurements:** Risk associated with the use of closed or proprietary software/source code, as well as dependence on a single vendor or product.
10. **Capability of Agency to Manage the Investment:** Risk associated with the existence of executive management support, an experienced project management team, appropriate project management structures, governance, clear and defined responsibilities, as well as demonstrated experience in managing projects of similar size and scope. The risk also relates to the degree to which program plans and strategies exist and are realistic and consistent.
11. **Overall Risk of Project Failure:** Risk associated with the negative impact resulting from the occurrence of one or more identified or unidentified risks, leading to catastrophic results for the project. It refers to the aggregation of identified risks associated with this initiative and the likelihood (probability and impact) that one or more occurrences of risk will cause this initiative to fail. It also includes the risk that unidentified risks (e.g., change in strategic direction) occur leading to the project becoming obsolete.
12. **Organizational and Change Management:** Risk associated with organizational/ agency/ government-wide cultural resistance to change and standardization; risk associated with bypassing, lack of use or improper use or adherence to new systems and processes due to organizational structure and culture; inadequate training planning.
13. **Business:** Risk associated with business goals; risk that the proposed alternative fails to result in process efficiencies and streamlining; risk that business goals of the program or initiative will not be achieved; risk that the program effectiveness targeted by the project will not be achieved.
14. **Data/Information:** Risk associated with the loss/misuse of data or information, risk of increased burdens on citizens and businesses due to data collection requirements if the associated business processes or the project require access to data from other sources (Federal, state and/or local agencies).

15. **Technology**: Risk associated with immaturity of commercially available technology; reliance on a small number of vendors; risk of technical problems/failures with applications and their ability to provide planned and desired technical functionality. Technical risk addresses the possibility that the application of software engineering theories, principles, and techniques will fail to yield the appropriate software product. Technical risk is comprised of the underlying technological factors that may cause the final product to be: overly expensive, delivered late, or otherwise unacceptable to the customer. Technical risk also addresses the dependencies between risk management and economic sensitivity analysis, as these both influence one another.
16. **Strategic**: Risk associated with strategic/government-wide goals (i.e., President's Management Agenda and e-Gov initiative goals) - risk that the proposed alternative fails to result in the achievement of those goals or in making contributions to them. Risk that the objectives of the project are not clearly linked to program needs, to CMS' overall strategies, and to government-wide policies and standards. Risk that the initiative is not based on clearly understood needs or opportunities and is inconsistent with the overall strategies and architectures used by CMS and the Federal Government (i.e., Federal Enterprise Architecture).
17. **Security**: Risk, particularly as it relates to the business functions, associated with the security/vulnerability of systems, Web sites, information and networks; risk of intrusions and connectivity to other (vulnerable) systems; risk associated with the misuse (criminal/fraudulent) of information. More detailed information specific to information security will be required in Section E (Security). [Note: This area must include level of risk (high, medium, low) and what aspect of security determines the level of risk, e.g. need for confidentiality of information associated with the project/system, the level of integrity required for this information, availability of the information or system, or reliability of the information or system.]
18. **Privacy**: Risk associated with the vulnerability of information collected on individuals, or the risk of vulnerability of proprietary information on businesses.
19. **Project Resources**: Risk associated with "cost creep," incorrect estimation of life cycle costs, reliance on a small number of vendors without cost controls, (poor) acquisition planning. Addresses the adequacy of people, funds, schedule, and tools as necessary ingredients for successfully implementing the project.

Identify all applicable risks using the above 19 categories in the sample table provided below.

TABLE 7 - Risks

Date Identified	Area of Risk	Description	Probability of Occurrence	Impact	Strategy for Mitigation	Current Status

Section C Acquisition Strategy

The acquisition approach for the project should be included in the BCA. The selected approach may affect existing contracting vehicles (i.e., if the project is especially large or if the dollar amount already contracted under a preferred vehicle is close to the ceiling of that vehicle), identify the need for CMS acquisition staff support, and indicate the lead time anticipated due to contracting activities. Once the project is funded, the approach will be used as the basis for the project acquisition plan.

The acquisition approach should be coordinated with the CMS contracting officer, and should identify the procurement options anticipated to be used in implementing the project. These options may include use of an existing contracting vehicle, establishment of a new vehicle, or a combination of options specific to phases of the project. If appropriate, proposed sources should be identified. If a new contracting vehicle is anticipated, the project owner should identify if the anticipated contract will be awarded as a sole source agreement, a purchase order, a full and open competition, etc. The project owner should also identify the type of contract expected to be awarded (e.g., cost plus fixed fee or indefinite delivery/indefinite quantity) and any socioeconomic programs that will be used.

The project owner should also identify any delivery and reporting requirements for the project and the methodology that will be used for evaluation of project performance. This may include the use of earned value management or software metrics, e.g., number of lines of code or function points completed.

Some sample acquisition approaches are shown in Figure 3, below.

<i>Sample Acquisition Approaches</i>
<ul style="list-style-type: none">• Project ABC will acquire services for Phase 1 development activities through task orders issued under the existing contract #ABC-01-0003.• Project ABC will hold a full and open competition to acquire a contractor to perform Phase 2 development activities.• Hardware will be procured for Project ABC off of existing GSA schedules.• IV&V services will be obtained for Project ABC from the vendor XYZ using an existing contract available through an inter-agency agreement with NIH.• Training services will be obtained for Project ABC using in-house resources from the CMS training organization.

Figure 3. Sample Acquisition Approaches

Section D Enterprise Architecture for Chosen Alternative

Architecture Best Practices:

1. Does the investment supply an Agency-wide, cross-functional architectural solution to common business requirements? (Yes or No)
2. Does the investment represent a specific Agency element identified in the Agency “Target” architecture? (Yes or No)
3. Is the investment architecture integrated within the overall Agency enterprise architecture? (Yes or No)

Business-Driven Architecture:

4. Briefly describe how this investment supports the Agency e-Business and E-Gov strategies and how it is enabled with IT services.
5. Briefly describe where this investment is contained within your Agency Enterprise Architecture, what business process transformations are enabled by this solution, and the legacy activity that is being replaced.
6. How is information being used to create new value for the citizen, beneficiary, or stakeholder?
7. Primary Business Reference Model (BRM) alignment is designated in the identifier for the investment and must be selected from either the Service for Citizen, Support Delivery or Service, or Management of Government Resource. For investments that mapped to a Service for Citizens Line of Business (LOB) and Sub-Function within the Federal Enterprise Architecture Business Reference Model, see www.feapmo.gov, the investment must also map to a Mode of Delivery Line of Business and Sub-function. Please identify the Mode of Delivery Line of Business and Sub-function in TABLE 8, below. If this IT investment also supports other Lines of Business and Sub-functions from the FEA Business Reference Model, please list those in TABLE 8 also.

TABLE 8 – BRM, LOB, and Sub-function Alignment

Line of Business	Sub-function

8. Using the table below, show the relationship to the Service Component Reference Model (SRM) Section of the FEA. Include a discussion of the components included in this major IT investment (e.g., knowledge management, content management, customer relationship management, etc). For detailed guidance regarding components, please refer to <http://www.feapmo.gov> and the SRM Release Document. Below is a table with one example included. Please list all components for this investment.

For example:

TABLE 9 – Relationship to SRM

Service Domain	Service Type	Component	Component Specification	New Specification (Yes or No)
Customer Services	Customer Initiated Assistance	Reservations/registration	One-Stop, One-Form. Exporters can register in a common database through multiple Web-entry points.	No

9. Using Table 10, show the relationship to the Technical Reference Model (TRM) section of the FEA. Identify each Service Area, Service Category, and Service Standard that collectively describe the technology supporting the major IT investment. For detailed guidance regarding the FEA TRM, please refer to <http://www.feapmo.gov>. Below is a table with one example included. Please list all technical levels for this investment.

For example:

TABLE 10 – Relationship to TRM

Service Area	Service Category	Service Standard	New Specification (Yes or No)
Service Access & Delivery	Access Channels	Web Browser	No

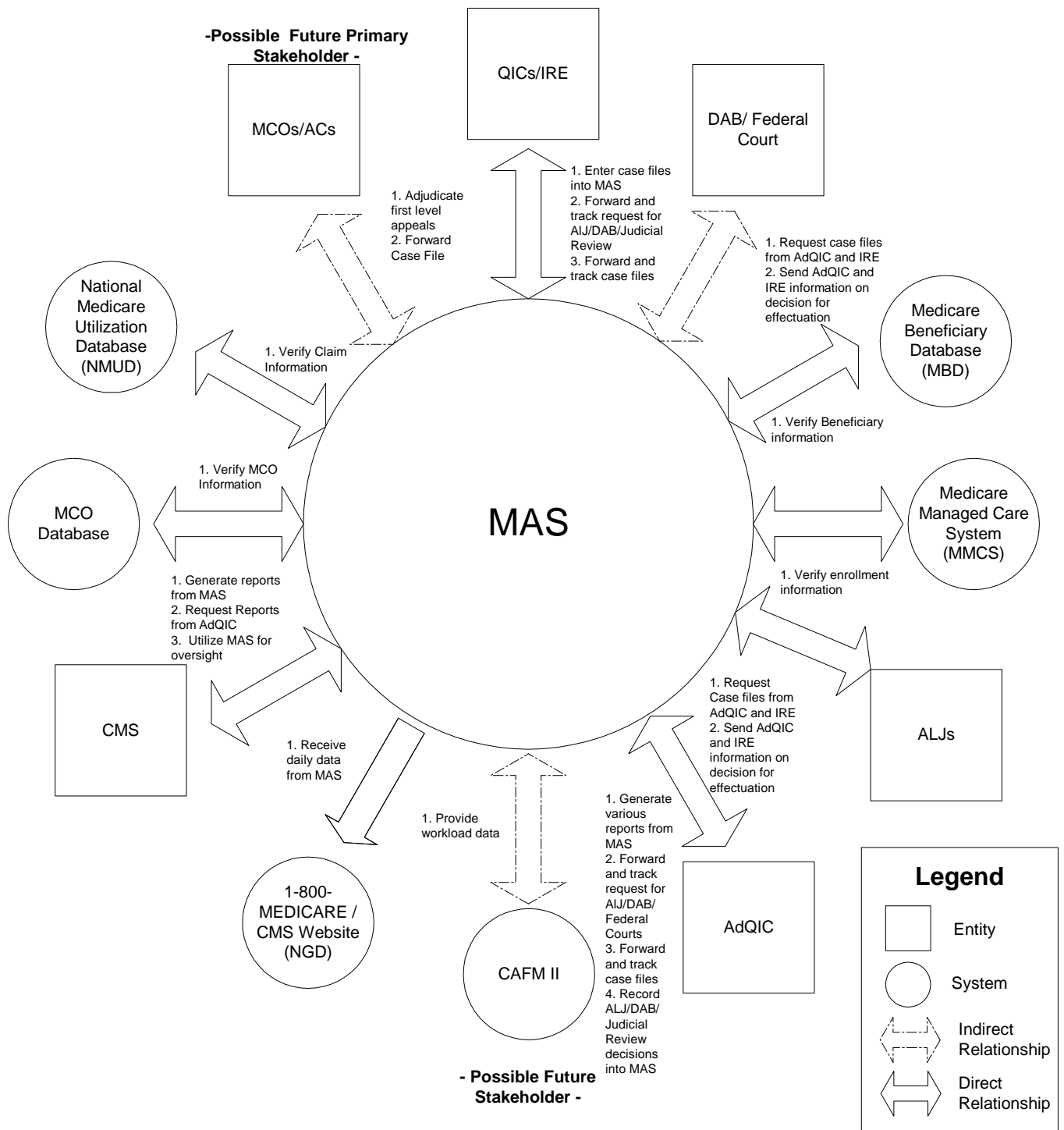
10. Will the application leverage existing components and/or applications across the Government (i.e., FirstGov, Pay.Gov, etc). (Yes or No)
a. If so, please describe.
11. Management Systems and Investments, as indicated in Part I, must be mapped to the Agency's financial management system inventory provided annually to OMB. Please identify the system name(s) and system acronym(s) as reported in the most recent systems inventory update required by Circular A-11 section 52.4.

Business Models:

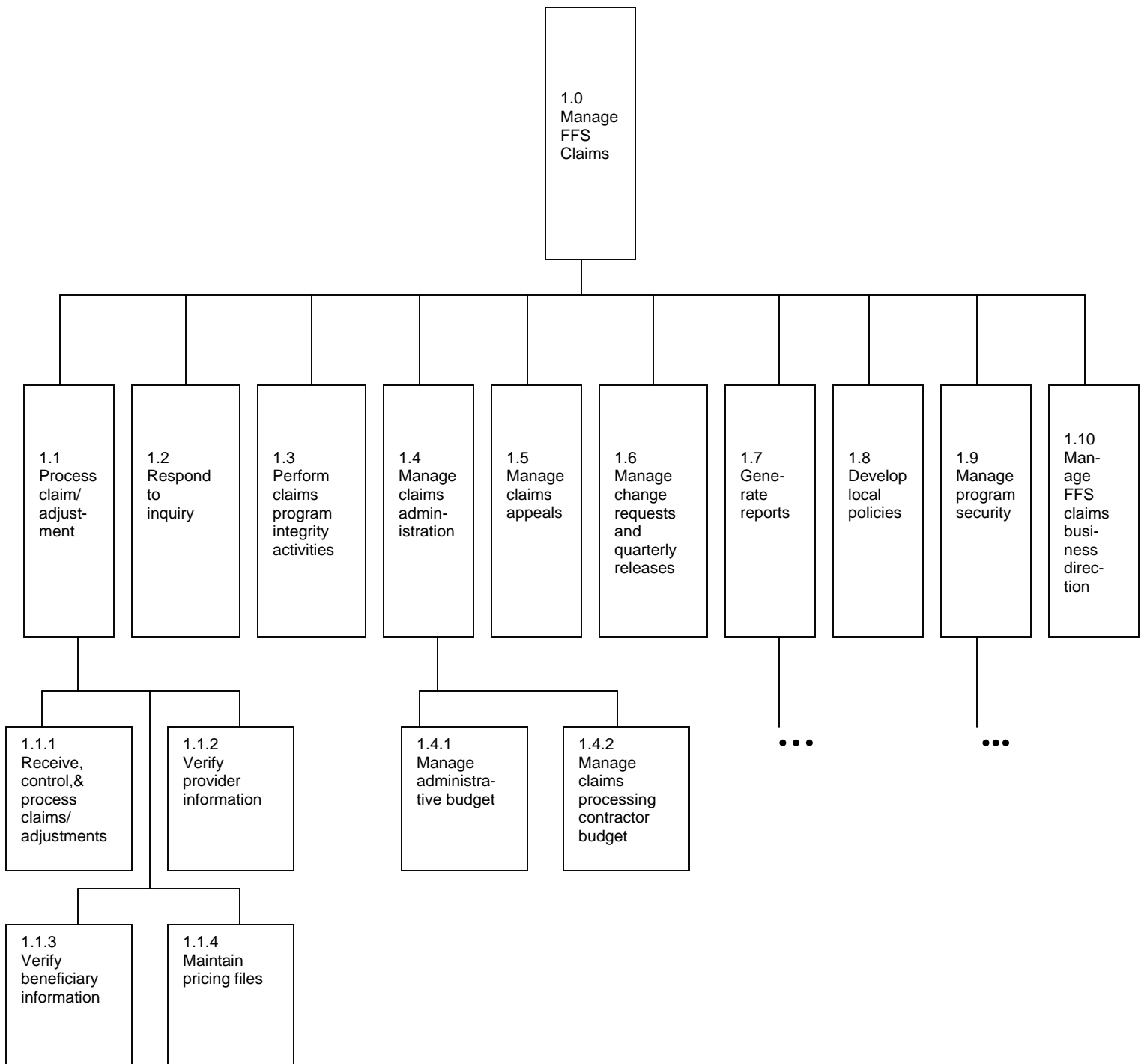
High-level business models should be developed as logical models to describe the high-level business processes that are affected by the project. The models should also identify the project owner and the stakeholders with whom the project interacts. Lower-level models should be developed later, as the project evolves.

The examples on the following pages depict two different types of high-level business models. A context diagram, an example of which appears in Example 1 below, should be created for every project. It is recommended that other high-level business models should also be created, as they help the project staff better understand/define the business processes. Some examples of these other types of models include decomposition diagrams (see Example 2), business process diagrams, IDEF0 models, and use case models. Development of other high-level business models, in addition to the required context diagram, is encouraged.

Example 1 Medicare Appeals System (MAS) Context Diagram



Example 2 Decomposition Model for FFS Claims Processing



Section E Security

In order to successfully address this area of the business case, each question below must be answered at the system/application level, not at a program or Agency level. Simply referring to security plans or other documents is not an acceptable response. For IT systems that will be developed, security and privacy planning must proceed in parallel with the future development of the system to ensure that IT security and privacy requirements, as well as costs, will be identified and incorporated into the overall life cycle of the system.

1. How many systems support this project, and what are the names of the systems?
2. Has this project been identified by the Department of Homeland Security as a national critical operation or asset? (Yes or No)
3. If no, has the Agency identified this project as mission critical? (Yes or No)

Please respond to the questions below and verify the system owner took the following actions:

4. Identified the IT security costs for the system(s) and have integrated those costs into the overall costs of the investment. (Yes or No)
5. Is identifying and assessing security and privacy risks as part of the overall risk management effort for the system. (Yes or No)

In addition, a CMS Information Security Business Risk Assessment must be completed to identify the risks associated with business functions. This will be the baseline for determining security requirements for the development of the system within the system development life cycle, and it will assist in clarifying the extent to which damage to a business function may occur if a security risk is exploited.

APPENDIX A

GLOSSARY OF TERMS AND ACRONYMS

BCA

The business case analysis (BCA) establishes sound business reasons for proceeding with a project by providing insight into how the project supports business needs and aligns with the Federal Enterprise Architecture Business Reference Model, Service Component Reference Model, and Technical Reference Model. The BCA provides an overview of the project, a summary of its funding, and a justification of how the investment would support a core or priority function of the Agency. The document addresses alternatives for accomplishing the project and contains an analysis of costs and benefits that is consistent with the preferred alternative. The BCA next provides an assessment of business risks, describes the acquisition strategy, and addresses the architecture for the chosen alternative. Additional details of the alternatives analysis may also be included as an appendix, if necessary.

CIO

The CMS Chief Information Officer (CIO) reports directly to the CMS Administrator. The CIO is responsible under the Clinger-Cohen Act for adopting an enterprise-wide architecture, and processes to ensure that IT projects are implemented at acceptable costs, within reasonable time frames, and are contributing to tangible, observable improvement in mission performance.

CMS

The Centers for Medicare & Medicare Services (CMS), formerly the Health Care Financing Administration, is a Federal Agency within the Department of Health and Human Services established to administer the Medicare, Medicaid, and state Children's Health Insurance programs. CMS provides health insurance for over 74 million Americans.

EA

The CMS Enterprise Architecture (EA) is a set of principles, policies, and standards that guide the engineering of CMS' IT systems and infrastructure to ensure alignment with business needs. The CMS EA describes how CMS' IT resources are allocated, and provides guidance for the infrastructure and applications systems so that the IT plans incorporate the most effective use of resources for the most optimal functioning of CMS.

Financial Management System

OMB Circular No. 127 states that the term "financial system" means an information system, comprised of one or more applications, that is used for any of the following:

- collecting, processing, maintaining, transmitting, and reporting data about financial events;
- supporting financial planning or budgeting activities;
- accumulating and reporting cost information; or
- supporting the preparation of financial statements.

A financial system supports the financial functions required to track financial events, provide financial information significant to the financial management of the Agency, and/or required for the preparation of financial statements. A financial system encompasses automated and manual processes, procedures, controls, data, hardware, software, and support personnel dedicated to the operation and maintenance of system functions. A financial system may include multiple applications that are integrated through a common database or are electronically interfaced, as necessary, to meet defined data and processing requirements.

The term "non-financial system" means an information system that supports non-financial functions of the Federal government or components thereof and any financial data included in the system are insignificant to Agency financial management and/or not required for the preparation of financial statements.

The term "mixed system" means an information system that supports both financial and non-financial functions of the Federal government or components thereof.

The term "financial management systems" means the financial systems and the financial portions of mixed systems necessary to support financial management.

IT

Information technology (IT) is the broad-based application of technology to the conduct of everyday business and personal activities. IT includes hardware, software, networking and telecommunications, usually in the context of a business or other enterprise.

ITMRA

In 1996, the Congress and the President enacted the Information Technology Management Reform Act (ITMRA) and the Federal Acquisition Reform Act. These two Acts, together known as the Clinger-Cohen Act, require the federal government to use IT to improve mission performance and service to the public and to strengthen the quality of government IT decision-making by measuring performance.

OIS

Among other responsibilities, the CMS Office of Information Services (OIS) serves as the focal point for the responsibilities of the Agency's Chief Information Officer in planning, organizing, and coordinating the activities required to maintain an agency-wide Information Resources Management (IRM) program.

Planning

Per OMB Circular No. A-11, Section 300-5, planning means preparing, developing or acquiring the information you will use to: design the investment; assess the benefits, risks, and risk-adjusted life-cycle costs of alternative solutions; and establish realistic cost, schedule, and performance goals, for the selected alternative, before either proceeding to full acquisition of the capital project (investment) or useful segment or terminating the investment. Planning must progress to the point where you are ready to commit to achieving specific goals for the completion of the acquisition before proceeding to the acquisition phase. Information gathering activities may include

market research of available solutions, architectural drawings, geological studies, engineering and design studies, and prototypes. Planning is a useful segment of a capital project (investment). Depending on the nature of the investment, one or more planning segments may be necessary.

Services

All functions performed in the course of information technology development, e.g., functions relating to a system development. Costs relating to services exclude costs for hardware and off-the-shelf software.

Useful Segment

OMB Circular No. A-11, Section 300, states that a useful segment is an economically or programmatically separate component of a capital investment that provides a measurable performance outcome for which the benefits exceed the costs, even if no further funding is appropriated.

APPENDIX B

ADDITIONAL INFORMATION

If you want more information about **IT Investment Management**, see:

- *CMS Integrated IT Investment & System Life Cycle Framework*, October 2004, Office of Information Services, Centers for Medicare & Medicaid Services, 7500 Security Blvd., Baltimore, Maryland
- *HHS IRM Policy for Capital Planning and Investment Control*, January 2001, U.S. Department of Health and Human Services, Washington, D.C.
- *CMS Strategic Plan*, December 1998, Centers for Medicare & Medicaid Services, 7500 Security Blvd., Baltimore, Maryland
- *OMB Circular A-130, Management of Federal Information Resources*
- *GAO/AIMD-10.1.13 Information Technology Investment Evaluation Guide. Assessing Risks and Returns: A Guide for Evaluating Federal Agencies' IT Investment Decision-making*, February 1997
- *GAO/AIMD-10.1.23 Information Technology Investment Management, A Framework for Assessing and improving Process Maturity, Exposure Draft*, May 2000
- *GAO/AIMD-94-115 Executive Guide, Improving Mission Performance Through Strategic Information Management and Technology, Learning from Leading Organizations*, May 1994

If you want more information about **Enterprise Architecture**, see:

- *Federal Enterprise Architecture Framework, Version 1.1*, Chief Information Officers Council, September 1999
- *OMG Unified Modeling Language Specification, Version 1.3*, June 1999

If you want more information about **Implementation Guidance for the Federal Financial Management Improvement Act (FFMIA)**, see:

- Memorandum for the Heads of Executive Departments and Establishments, Chief Financial Officers, and Inspectors General, January 4, 2001, RE: *Revised Implementation Guidance for the Federal Financial Management Improvement Act*
- OMB Circular A-127, Financial Management Systems

If you want more information about **Alternatives Analysis**, see:

- *HHS-IRM-2000-0002 HHS IRM Policy for Conducting Information Technology Alternatives Analysis*, January 8, 2001, U.S. Department of Health and Human Services, Washington, D.C.

- *Federal CIO Council, Capital Planning and IT Investment Committee, ROI and the Value Puzzle, April 1999*

If you want more information about **Cost Benefit Analysis**, see:

- *OMB Circular A-94, Guidelines and Discount Rates for Benefit-Cost Analysis of Federal Programs*
- *OMB Circular A-11, Preparing and Submitting Budget Estimates*
- *Cost/Benefit Analysis Process Guide, Division of Investment Planning and Analysis, Office of Information Services, Centers for Medicare & Medicaid Services, 7500 Security Blvd., Baltimore, Maryland*

If you want more information about **Risk Analysis**, see:

- *CMU/SEI-97-HB-002 Software Acquisition Risk Management Key Process Area (KPA) – A Guidebook, Version 1, August 1997*
- *Defense Systems Management College, Risk Management Guide for DOD Acquisition, Forth Edition, February 2001*

If you want more information about **Acquisition Strategies**, see:

- *DHHS Project Officers' Contracting Handbook, Research and Development Version, Office of the Secretary, Office of Grants and Acquisition Management, Office of Acquisition Management, September 1996*
- *Defense Systems Management College Press, Acquisition Strategy Guide, Fourth Edition, December 1999*
- *OFPP Policy Letter 91-2, Service Contracting, April 1991*
- *OFPP, OMB, and the Executive Office of the President, A Guide to Best Practices for Performance-Based Service Contracting, Interim Edition, July 1997*

If you want more information about **Business Requirements**, see:

- *CMS Requirements Writer's Guide, Version 3.1, October 2004, Office of Information Services, Centers for Medicare & Medicaid Services, 7500 Security Blvd., Baltimore, Maryland*

If you want more information about **Project Management Strategies**, see:

- *Project Management Institute Standards Committee, A Guide to the Project Management Body of Knowledge*
- *Supplement to OMB Circular A-11, Part 3, Capital Programming Guide, July 1997*
- *GAO/AIMD-00-21.3.1 Standards for Internal Control in the Federal Government, November 1999*

- *GAO/GGD-00-28 Human Capital, Key Principles From Nine Private Sector Organizations, January 2000*